

## REMARKS

Claims 1 and 3-8 remain pending in this application.

Claims 1 and 4-6 remain rejected under 35 U.S.C. § 102(b) as being anticipated by Taniguchi et al. (U.S. Patent No. 6,331,248). According to the Office, Taniguchi et al. teaches all the limitations of these claims including the limitation that requires that "at least part of the hollow fiber membrane bundles are divided into at least two, plural small bundles between the lower ring-side adhesion layer and the cartridge head-side adhesion fixation layer." Applicant respectfully disagrees. The assignee of the present application and of the '248 patent are the same, and knows that the presently claimed invention was not taught in the '248 patent.

We understand that the Examiner regards Taniguchi et al. to teach all the limitations of the invention "as presently claimed in claim 1" (paragraph 6 of the final action). It is not clear from the manner in which this conclusion is stated whether the Examiner believes there is no difference between the teachings of Taniguchi et al. and the claimed invention or whether the Examiner considers that claim 1, for example, does not clearly set forth a difference that the Examiner recognizes between these teachings. In any event, for the reasons advanced below, the present claims clearly distinguish over the teachings of Taniguchi et al.

As noted in the previous response, Taniguchi et al. does not teach the feature, illustrated in Figs 1 and 2 of the present application, where the hollow fiber membrane bundle 1 is divided into at least 2, plural smaller bundles 10 between the lower ring-side adhesion layer (3) and the cartridge head-side adhesion fixation layer (4). See also page 10, lines 20-28 of the specification, for example. Another way to envision this

arrangement is that if you compare a cross-section of the cartridge of Fig. 1 from the bottom or from lower fixation layer 4 with a cross-section of the cartridge from the top or from the head-side fixation layer 5, the number of bundles at the top will be greater than the number of bundles at the bottom. This is because, as the claims recite, at least part of the hollow fiber membrane bundles are divided between the lower ring-side adhesion layer and the cartridge head-side adhesion fixation layer. This arrangement does not exist in the teachings of Taniguchi et al.

In figures 8-9 of Taniguchi et al, it is clear that bundles per se of hollow fiber membranes (4) are not divided into at least two, plural small bundles between the lower bonding portion (5') and the upper bonding portion (a reinforcing rib side) (5). In other words, if the cartridge of Fig. 8 of Taniguchi et al. was viewed from either the upper (5) or lower (5') bonding portions, essentially the same number of bundles would appear because there is no division of the hollow fiber membrane bundles between the lower bonding portion (5') and upper bonding portion (5).

Example 1 of Taniguchi et al. describes six bundles received into each of the six spaces separated by a reinforcing rib, and 19 openings (6) were uniformly distributed in the hollow fiber membrane bundle. This configuration is illustrated in figure 9 of Taniguchi et al. Please note that the 19 circles labeled as element (6) in Taniguchi et al. are openings. In contrast, circles denoted as (1) in Figs. 3 and 4 of the present application represent hollow fiber bundles. Neither figures 8 nor 9 nor any other portion of Taniguchi et al. teach the claimed limitation that at least part of the hollow fiber membrane bundles are divided into at least two, plural small bundles. In Taniguchi et al. there is no division of the bundles themselves as required by these claims.

Accordingly, since all limitations of these claims are not present in Taniguchi et al., this rejection should be withdrawn.

Claim 3 remains rejected under 35 U.S.C. § 103 as being unpatentable over Taniguchi et al. because the Office regards the dimensions and values recited in this claim to constitute nothing more than an optimization of the claimed parameters because Taniguchi et al. teach that the number of openings of hollow fiber bundles are varied depending on the diameter of the module and the shape of openings. Applicants respectfully disagree that the principle of optimization is applicable here because the general conditions of the claim are not disclosed in Taniguchi et al.

As noted above with respect to claim 1, the hollow fiber membrane bundles are divided into at least two, plural small bundles so that there are more bundles at the head-side than at the lower ring side. Since Taniguchi et al. does not teach a division into a plurality of small bundles, it follows that it could not suggest a suitable dimension regarding a distance between the small bundles located closest to each other. Accordingly, as the prior art fails to teach or suggest all the limitations of this claim, this rejection should be withdrawn.

Claims 7 and 8 remain rejected under 35 U.S.C. § 103 as being unpatentable over Taniguchi et al. in view of Behmann et al. (U.S. Patent No. 6,620,319). It is respectfully submitted that these claims are patentable for at least the reasons set forth with respect to claim 1. There are no teachings or suggestions in Taniguchi et al. or Behmann et al., alone or in combination, that would provide any reason to modify the teachings of these references in a manner that would result in the membrane cartridge device of claims 1 or 3-6. Accordingly, this rejection should be withdrawn.

Prompt and favorable reconsideration of this application is requested.

Please grant any extensions of time required to enter this response and charge  
any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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